

Abstract

This invention pertains to product and process. The product is a transparent product of a density in excess 99.5% comprising spinel and having uniform mechanical properties. The process pertains to fabrication of a transparent spinel product comprising the steps of dissolving a sintering aid in water to form a neutral sintering aid solution, adding a suitable additive to the sintering aid solution, applying the sintering aid solution to spinel particles to form a spinel dispersion, sub-dividing or atomizing the spinel dispersion to form droplets comprising one or more spinel particles coated with the final spinel solution, drying the droplets to form dried coated particles comprising one or more spinel particles coated with a dried layer of the sintering aid, and densifying the dried coated particles to form a transparent spinel product having uniform optical and mechanical properties in absence of grains of exaggerated size.